**Synthesis of methanol**

**1)** Write balanced symbol equations for both of the reactions involved in the production of methanol from

methane.

(i) **Reaction 1:** Methane and steam are reacted using a nickel catalyst, Ni, and a strong heat source, to form carbon monoxide gas and hydrogen gas.

(ii) **Reaction 2:** Carbon monoxide gas and hydrogen gas are reacted at 250oC using a copper-zinc catalyst, Cu-Zn, to form methanol.

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